

the specification found on page 1, now under the sub-heading "Field of the Invention" was rewritten into paragraph form as opposed to the claim format in which it was originally written. Based on these amendments, applicant respectfully requests that the objection to the specification be withdrawn.

The Office Action also objected to claim 6 and suggested an amendment thereto. Applicant has amended claim 6 to be solely dependent upon claim 1. Based on the amendment, applicant further respectfully requests the Examiner to withdraw the objection to claim 6.

Claims 1 and 4 were then rejected by the Office Action under 35 U.S.C. § 102(e) as allegedly being anticipated by U.S. Patent No. 6,069,456 to Fromm et al. (hereinafter referred to as "Fromm et al.").

The present invention as presently claimed relates to a high-pressure gas discharge lamp comprising: a quartz glass lamp vessel which is closed in a gastight manner, with a space which is enclosed by a wall and in which a pair of electrodes is arranged; an outer surface of said wall extending between the pair of electrodes; and a filling provided in the space and comprising a rare gas and halides of tin and indium, characterized in that the wall has a wall load of at least  $30 \text{ W/cm}^2$  at its outer surface, and in that the filling comprises an alkali metal halide with at least one alkali ion and at least one halide ion, said alkali ion being chosen from the group formed by potassium, rubidium, and cesium, and the halide ion being chosen from the group formed by chlorine, bromine, and iodine. The purpose behind the present invention is to avoid corrosion and crystallization of the quartz glass lamp vessel by the filling comprised of a rare gas and halides of tin and indium.

The present invention accomplishes its objection by maintaining a wall load of at least  $30 \text{ W/cm}^2$  at its outer surface and with the use of said filling further comprising an alkali metal halide with at least one alkali ion and at least one halide ion, said alkali ion being chosen from the group formed by potassium, rubidium, and cesium, and the halide ion being chosen from the group formed by chlorine, bromine, and iodine.

The Office Action has alleged that the claimed invention is anticipated by the teachings of Fromm et al., reciting the claimed invention and referring to the parts of Fromm et al. which disclose each element of the claim. However, from a review of this comparison, it is apparent that the Office Action has confused some of the elements of the claimed invention from those elements taught by Fromm et al.

The Office Action stated that “Fromm et al. discloses a high-pressure gas discharge lamp comprising: a quartz glass (column 2, line 44) lamp vessel (figure 1, 1) ...” Although Fromm et al. is most preferably directed to a metal halide lamp having a ceramic discharge vessel, Fromm et al. does mention at column 2, line 44 that the discharge vessel may be made from quartz or silica glass. However, the office action then referred to Figure 1, reference numeral 1 as the lamp vessel. To begin with, Figure 1 of Fromm et al. actually illustrates the embodiment of a metal halide lamp having a discharge vessel made from  $\text{Al}_2\text{O}_3$  ceramic (see Fromm et al., column 8, lines 7-9), not quartz glass. In addition, reference numeral 1 of Fromm et al. does not relate to the discharge vessel. Reference numeral 1 of Fromm et al. correlates to the cylindrical outer bulb which is made from silica glass. Thus the reference numeral 1 of Fromm et al. is clearly different from reference numeral 2 of the present invention which is a quartz glass lamp discharge vessel (see the Figure of the present application).

Shortly after the above quoted passage, the Office Action referred to Fromm et al. as teaching “an outer surface of the wall extending between the pair of electrodes (figure 1, 20)”. Figure 1 of Fromm et al. shows no reference number 20. Reference number 20 of Fromm et al. represents a “further exemplary embodiment of a metal halide lamp” (see Fromm et al., column 11, lines 44-45). Reference numeral 20 is shown in Figure 5a of Fromm et al., said Figure also appearing on the cover page of said patent. It is assumed the Examiner in this instance looking at the figure on the cover sheet of the Fromm et al. patent inadvertently referred to it as “Figure 1”. In any case, reference numeral 20 of Fromm et al. does not relate to the “outer surface of the wall extending between the pair of electrodes” as alleged by the Office Action. In fact, nowhere in Fromm et al. is the outer surface of the wall discussed. The only reference to wall loading found in Fromm et al. is at column 9, lines 50-53, where it is defined as “electric power/inner surface” (emphasis added).

From the above analysis of the statements made in the Office Action, it seems that various elements of the present invention have been confused with certain elements of the cited reference. Keeping the above in mind, it is axiomatic that anticipation under 35 U.S.C. §102 requires that the prior art reference disclose every element of the claim. In re King, 801 F.2d 1324, 1326, 231 USPQ 136, 138 (Fed. Cir. 1986). Thus, there must be no differences between the subject matter of the claim and the disclosure of the prior art reference. Stated in another way, the reference must contain within its four corners adequate directions to practice the invention. The corollary of this rule is equally applicable. The absence from the reference of any

claimed element negates anticipation. Kolster Speedsteel AB v. Crucible Inc., 793 F.2d 1565, 1571, 230 USPQ 81, 84 (Fed. Cir. 1986).

Fromm et al. does not teach the claimed structure of the present invention. Specifically, Fromm et al. does not teach or suggest in any way the requirement of at least  $30\text{W}/\text{cm}^2$  at the outer surface of the wall of the discharge vessel. As discussed above, the only teaching of Fromm et al. concerning wall load defines it as “electric power/inner surface”. It is not even apparent from Fromm et al. whether the discussion of the wall loading applies to the embodiment wherein the discharge vessel is made of silica glass. It appears from the reading of Fromm et al. that the entire description of the preferred embodiments concern the embodiment where the discharge vessel is made from ceramics. In addition, it is confusing from the reading of the Office Action as to whether or not the correct structures were being compared to one another, i.e. the outer bulb structure of Fromm et al. as opposed to the discharge vessel thereof and their comparison to the discharge vessel of the present invention.

In addition, the skilled artisan reading Fromm et al. would not be able to derive the claimed combination of filling as claimed by the present invention. Fromm et al. requires additional essential components to its filling not required by the present invention. For example, Fromm et al. requires at least one light generator defined as a metal halide wherein the metal is chosen from Na, Pr, Nd, Ce, La, Tm, Dy, Ho, Tl, Sc, Hf and Zr. Such a component is not required by, i.e. is absent from, the present invention. Add to this the fact that Fromm et al. is specifically directed to the replacement of the use of mercury in high-pressure gas discharge lamps. That is, the lamps of Fromm et al. are mercury-free. This is not essentially the case with the lamps of the present invention

wherein mercury can be used as the buffer gas. Accordingly, the skilled artisan would not even apply Fromm et al. to the present application. That is, the skilled artisan trying to accomplish the results of the present invention would not be inclined to look to Fromm et al. for suggestions as the teachings of this reference are specifically directed to mercury-free lamps. Clearly, King and Kolster show that Fromm et al. falls short of the anticipation standard of 35 U.S.C. §102(e).

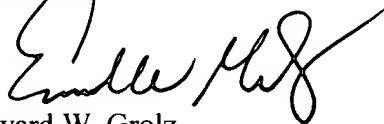
Based on the arguments provided above, it is respectfully requested that the rejection of claims 1 and 4 under 35 U.S.C. § 102(e) based on Fromm et al. be withdrawn.

The Office Action then proceeded to reject claims 2, 3 and 6 under 35 U.S.C. § 103(a) as being unpatentable over Fromm et al., and claim 5 under 35 U.S.C. § 103(a) as being unpatentable over Fromm et al. in view of U.S. Patent No. 5,479,065 to Sugimoto et al. Neither of these rejections overcome the deficiencies discussed above with respect to the rejection of claims 1 and 4. As claims 2, 3, 5 and 6 all depend from claim 1, i.e., are based on a patentable claim, the rejections of these claims are also respectfully requested to be withdrawn as well.

It is further noted that applicants enclose a copy of **“Version With Markings to Show Changes Made”** indicative of the amendments being implemented herewith.

Finally, it is further submitted that all the claims in the application contain patentable subject matter and a Notice of Allowance is respectfully solicited.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Edward W. Grolz', written over the typed name.

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Encl. (Version with Markings to Show Changes Made)

**VERSION WITH MARKINGS TO SHOW CHANGES MADE**  
**IN THE SPECIFICATION:**

Page 1, below the title, lines 1 through 7; revise to read:

**--BACKGROUND OF THE INVENTION**

**1. Field of the Invention**

The invention relates to a high-pressure gas discharge lamp comprising [:] a quartz glass lamp vessel which is closed in a gastight manner, with a space which is enclosed by a wall and in which a pair of electrodes is arranged [;], an outer surface of said wall extending between the pair of electrodes [;] and a filling provided in the space and comprising a rare gas and halides of tin and indium.

**2. Discussion of the Prior Art --;**

On pages 2 and 4, section headings have been inserted into the disclosure.

**IN THE CLAIMS**

**Claim 6 has been further amended as follows:**

6. (Twice Amended) A high-pressure gas discharge lamp as claimed in claim 1, [4,] characterized in that the high-pressure gas discharge lamp (1) is a DC lamp.